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A.D. 1865, 16th NOVEMBER. N° 2950.

Alfred Vincent Newton
Caramel.

LETTERS PATENT to Alfred Vincent Newton, of the Office for Patents, 66, Chancery Lane, in the County of Middlesex, Mechanical Draughtsman, for the Invention of "AN IMPROVED MANUFACTURE OF CARAMEL."—A communication from abroad by Thaddeus Hyatt, of the City of New York, in the United States of America.

Sealed the 6th April 1866, and dated the 16th November 1865.

PROVISIONAL SPECIFICATION left by the said Alfred Vincent Newton at the Office of the Commissioners of Patents, with his Petition, on the 16th November 1865.

I, ALFRED VINCENT NEWTON, of the Office for Patents, 66, Chancery Lane, in the County of Middlesex, Mechanical Draughtsman, do hereby declare the nature of the said Invention for "AN IMPROVED MANUFACTURE OF CARAMEL," to be as follows:—

Caramel is better known by the name of "burnt sugar," though generally made from molasses. It may be manufactured from any sort of sugar or syrup, or from molasses or honey, its chief use being for coloring brandies, and for the cuisine. Being of the same colour as coffee, and more wholesome than chicory and other adulterating substances, it is used by some manufacturers to impart a rich colour to their coffee, which they do by roasting the sugar. By this mode of combining the two the caramel is formed

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upon the coffee in the form of a glazing, but as it soon grows soft and sticky on exposure to the air the practice is to grind it immediately while hard. This plan is made necessary by the nature of caramel, which in the solid state cannot be powdered, and in the liquid state must be used with the boiling water which serves to make the beverage. But as coffee soon loses flavour 5 after the grains are broken some better mode of serving the caramel is needed.

The present improvement consists in furnishing it with a dry base of its own, which reduces it to a powdery condition, and protects it from the air. It is then in proper shape for being mixed with coffee at any moment, and 10 the coffee need not be ground until wanted for use.

The use of caramel with coffee has thus far been only as a coloring material, for the coffee has not been in a condition to require it. Like the perfumes of flowers the aroma of coffee is in its oil. Coffee also contains caramel. The beverage is practically coffee-caramel flavored by coffee-oil, each being the 15 correlative and auxiliary of the other. To develop this oil and this caramel is hence the sole purpose of the roasting process, which is a sort of dry distillation. The reason why coffee as commonly roasted is not in a condition to allow the caramel to do anything more than colour it is because it is roasted dry, or without any surplus oil. In this case there is but little more oil than 20 the caramel of the coffee requires, and to add more caramel under such circumstances is merely to add colour and to tone down the sharp high flavour or "goût acerbe" of the coffee; but when the whole of the oil is developed it is so largely in excess of the wants of the contained caramel that a pound of such coffee requires the addition of a pound of dry caramel, and then the 25 beverage obtained from the two in combination is more in quantity than three pounds of ordinary coffee yields, and of better flavour. It is this new development in coffee that gives value to caramel, and causes the mode of its manufacture to be of the highest importance.

The present improvement, which consists, as already stated, in reducing 30 caramel to a powdery condition by means of a dry base, whereby it is protected from the air, may be carried out in either of two ways; first, by glazing with caramel a part of the material of which this base is formed, and then mixing this with the unglazed portion; or, secondly, by combining the caramel directly with the whole of the base by absorption. This may be effected also 35 in either of two ways; first, by using liquid caramel; secondly, by combining the sweet material directly with the dry base, and roasting the two together. The last is preferred, as less difficult, more certain, and producing superior caramel. The following is the method:—With bran for a base take 6

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pounds of molasses dissolved in hot water sufficient to thoroughly soak ten pounds of bran, and then dry it evenly. Then roast this sweetened bran to a chocolate colour, in the same way as coffee is roasted, after which it is fit for use. Dry bread may be reduced to a coarse powder and treated in a similar way. When flour is used as the base it is preferred to make it into bread, using molasses in the same proportion as with bran, and mixing it into the dough. This bread is then baked in the ordinary way, and afterwards cut up and dried, and reduced to a coarse powder, in which condition it is roasted precisely as stated when bran is the material. Sugar cane, or sorghum cane, or any of their equivalents may be roasted in the same manner substantially, and with like results. The "bagasse" may also be used for the same purpose.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Alfred Vincent Newton in the Great Seal Patent Office on the 16th May 1866.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ALFRED VINCENT NEWTON, of the Office for Patents, 66, Chancery Lane, in the County of Middlesex, Mechanical Draughtsman, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Sixteenth day of November, in the year of our Lord One thousand eight hundred and sixty-five, in the twenty-ninth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Alfred Vincent Newton, Her special licence that I, the said Alfred Vincent Newton, my executors, administrators, and assigns, or such others as I, the said Alfred Vincent Newton, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "**AN IMPROVED MANUFACTURE OF CARAMEL**," being a communication from abroad, upon the condition (amongst others) that I, the said Alfred Vincent Newton, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

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NOW KNOW YE, that I, the said Alfred Vincent Newton, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement (that is to say) :—

Caramel is better known by the name of "burnt sugar," though generally 5 made from molasses. It may be manufactured from any sort of sugar or syrup, or from molasses or honey. Its chief use is for coloring brandies and for the cuisine. Being of the same color as coffee, and more wholesome than chicory and other adulterating substances, it is used by some manufacturers to impart a rich color to their coffee, which they do by roasting the berry with 10 sugar. By this mode of combining the two the caramel is formed upon the coffee in the form of a glazing, but as it soon grows soft and sticky on exposure to the air the practice is to grind it immediately while hard. This plan is made necessary by the nature of caramel, which in the solid state cannot be powdered, and in the liquid state must be used with the boiling water, 15 which serves to make the beverage. But as coffee soon loses flavor after the grains are broken some better mode of serving the caramel is needed.

The present improvement consists in furnishing it with a dry base of its own which reduces it to a powdery condition, and protects it from the air. It is then in proper shape for being mixed with coffee at any moment, and 20 the coffee need not be ground until wanted for use. The use of caramel with coffee has thus far been only as a coloring material, for the coffee has not been in a condition to require it. Like the perfumes of flowers, the aroma of coffee is in its oil. Coffee also contains caramel. The beverage is practically coffee-caramel flavored by coffee-oil, each being the correlative and auxiliary of the 25 other. To develop this oil and this caramel is hence the sole purpose of the roasting process, which is a sort of dry distillation. The reason why coffee as commonly roasted is not in a condition to allow the caramel to do anything more than color, it is because it is roasted dry or without any surplus oil. In this case there is but little more oil than the caramel of the coffee requires, 30 and to add more caramel under such circumstances is merely to add color, and to tone down the sharp high flavor or "gout acerbe" of the coffee; but when the whole of the oil is developed it is so largely in excess of the wants of the caramel that a pound of such coffee requires the addition of a pound of dry caramel, and then the beverage obtained from the two in combination is 35 more in quantity than three pounds of ordinary coffee yields, and of better flavor. It is this new development in coffee that gives value to caramel and causes the mode of its manufacture to be of the highest importance.

In carrying out this Invention, which consists, as already stated, in reducing

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caramel to a powdery condition by means of a dry base, whereby it is protected from the air, either of the two following ways may be adopted :— First, glazing with caramel a part of the material of which this base is formed, and then mixing this with the unglazed portion ; or, secondly, combining the
5 caramel directly with the whole of the base by absorption. This may be effected also in either of two ways ; first, by using liquid caramel ; secondly, by combining the sweet material directly with the dry base and roasting the two together. The latter is preferred as being the less difficult, the more certain, and producing superior caramel. The following is the method :—
10 With bran for a base, take of molasses five pounds and dissolve it in hot water sufficient to thoroughly soak ten pounds of bran, immerse the bran in this solution, and when saturated dry it evenly. Then roast this sweetened bran to a chocolate color in the same way as coffee is roasted, after which it is fit for use. Dry bread may be reduced to a coarse powder and treated in a
15 similar way, but when using flour as the base it is preferred to make it into bread, using molasses in the same proportion as with bran, and mixing it into the dough. This bread is then baked in the ordinary way and afterwards cut up and dried and reduced to a coarse powder, in which condition it is roasted precisely as stated when bran is the material. Sugar cane, or sorghum cane,
20 or any of their equivalents may be roasted in the same manner substantially and with like results. The “bagasse” may also be used for the same purpose ; but dry caramel must not be confounded with roasted beets, carrots, chicory, sweet peas, and other sugary substances from which “coffee substitutes” are selected, for the oils of these, like that of coffee, are developed along with
25 their caramels, and their caramels like that of coffee are corelative to their oils, hence the quality of each is marked by the peculiar oil of the substance which produces it. These oleaginous dry caramels differ from coffee therefore only in the nature of their inferior oils, and they are “adulterating substances” on account of these. Of course no free pure caramel exists in
30 their compositions, and consequently they are incapable of serving as auxiliaries to the oil of the coffee.

But although prominence has been given to dry caramel as an analogue of one of the elements of coffee, I do not wish to be understood as limiting its application to this use, for it is applicable wherever ordinary caramel is
35 employed either as a brandy colorer, or combined with onions, as an article of the cuisine for the “pot au feu.”

Having thus fully made known the nature of caramel and its uses, the character of sugar, roasted coffee, the nature of oleaginous dry caramels, and the nature and modes of preparing the dry caramels forming the subject of

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the present Invention, I wish it to be understood that without limiting myself to the precise things, or to the precise proportions herein specified, but giving them only as practical illustrations of the principle they represent, I claim under the above in part recited Letters Patent as the improved manufacture of caramel, communicated to me from abroad, the manufacture of dry caramel, 5 substantially as and for the purposes herein mentioned.

In witness whereof, I, the said Alfred Vincent Newton, have hereunto set my hand and seal, the Sixteenth day of May, in the year of our Lord One thousand eight hundred and sixty-six.

A. V. NEWTON. (L.S.) 10

Witness,

J. W. MOFFATT,

66, Chancery Lane.

LONDON:

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